

**HIGH-QUALITY GRADIENT-CORRECTED
LINEAR INTERPOLATION FOR
DEMOAICING OF COLOR IMAGES**

5

ABSTRACT OF THE DISCLOSURE

10 A gradient-corrected linear interpolation method and system for the
demaicing of color images. The method and system compute an interpolation
using some a current technique (preferably a bilinear interpolation technique to
reduce computational complexity), compute a correction term (such as a gradient
of a desired color at a given pixel), and linearly combine the interpolation and the
correction term to produce a corrected, high-quality interpolation of a missing
color value at a pixel. The correction term may be a gradient correction term
15 computed from the current color of the current pixel. This gradient is directly
used to affect and correct the estimated color value produced by the prior art
interpolation technique. The gradient-corrected linear interpolation method and
system may also apply a gradient-correction gain to the gradient correction term.
This gradient-correction gain affects the amount of gradient correction that is
20 applied to the interpolation.